CLAIMS

What I claim is

1. (Currently amended) An inflatable ~~tubular shaped~~ graft for placement through tortuous, narrow or stenotic cerebral blood vessels comprising:
   a. a first outer wall having a proximal end and a distal end;
   b. a second inner wall having a smaller diameter than the first outer wall and having a proximal end and a distal end;
   c. at ~~least one~~ two or more fused junctures of the first and second wall that are each configured as a band around the circumference of the graft and that create[[~~s~~]] fluid impermeable seals and fluid communicating passages within ~~a~~ resulting ~~interstitial space~~ fluid chambers between the first and second wall and the fused junctures; ~~and~~
   d. a valve to convey fluid into the interstitial space to inflate the graft and create a lumen within the tubular graft;
   e. radially oriented web reinforcement attached to the inner wall and outer wall within one or more fluid chambers and further comprising tapered web reinforcement proximate to the fused junctures and causing the outer wall to taper to the fused juncture.

Claims 2 & 3 are deleted

4. (Currently amended)The graft of claim ~~2~~ 1 wherein a fused juncture of the first and second wall is variably sized to create a non-linear longitudinal axis of the graft.
5. (Previously presented) The graft of claim 1 wherein the outer wall has a greater longitudinal length between each fused joint than the longitudinal length of the inner wall.
6. (Previously presented)The graft of claim 1 wherein the inner and outer walls are comprised of materials having differing elasticity.
7. (Previously presented) The graft of claim 1 wherein at least one of the inner and outer walls are comprised of non-elastic material.
8. (Currently amended) The graft of claim 1 wherein at least one wall is comprised of a material selected from a group consisting of polyethylene, polyurethane,

tetrafluoroethylene ~~TFE~~, polytetrafluoroethylene and expanded polytetrafluoroethylene. ~~PTFE, and ePTFE~~.

9. (Currently amended) The graft of claim 1 further comprising a fluid that can be communicated through the valve to fill the fluid chambers ~~interstitial space~~.

10. (Previously presented) The graft of claim 8 further comprising a component for locating the tubular shaped graft and inflating the graft with the fluid within a vessel lumen to form a lumen within the graft through which body fluids may be conveyed.

11. (Cancelled)

12. (Currently amended) The graft of claim ~~11~~ 1 wherein the radially oriented web reinforcement is comprised of non-elastic material.

13. (Currently amended) The graft of claim 11 wherein the radially oriented web reinforcement is comprised of material attached to the inner and outer walls in a corrugated manner and allowing fluid communication ~~between the inner and outer walls~~ within the fluid chambers ~~interstitial space~~.

14. (Previously presented) The graft of claim 13 wherein the web reinforcement material is comprised of a web of 2 or more inter-connected fibers.

15. (Currently amended) The graft of claim ~~11~~ 12 wherein the radially oriented web reinforcement ~~maintains~~ retains the spacing and orientation of the inner and outer graft wall ~~after~~ with the addition of fluid.

16. (Previously presented) The tubular shaped graft of claim 1 having a first and second end wherein an outer diameter of the first graft end is different than the outer diameter of the second graft end.

17. (Currently amended) The graft of claim 1 for treatment of cerebral aneurysms by placement through tortuous, narrow or stenotic cerebral blood vessels.

18. (Currently amended) The graft of claim 1 for treatment of cerebral atherosclerosis by placement through tortuous, narrow or stenotic cerebral blood vessels .

19. (Currently amended) The graft of claim 9 wherein after the ~~interstitial space~~ fluid chamber is filled with fluid, the outer wall forms a substantially corrugated surface and the inner wall forms a substantially smooth surface.

20. (Previously presented) The graft of claim 9 wherein the fluid is a curable composition.

21. (Previously presented) The graft of claim 20 wherein the curable composition is selected from the group consisting of a monomer, a liquid pre-polymer and an un-linked polymer.

22. (Currently amended) A method for repair of cerebral blood vessel ~~walls~~ comprising the steps of:

a. inserting a sealable two walled ~~tubular shaped~~ graft for placement within the tortuous, narrow or stenotic cerebral blood vessels ~~within the vessel lumen~~ utilizing a catheter having a fluid conveying means in communication to a valve accessing an ~~interstitial space~~ fluid chamber between the two walls of the graft;

b. maneuvering the graft to a selected location within the vessel lumen;

c. inserting fluid through a controllable valve within the graft and into ~~interstitial space~~ fluid chamber between the two walls of the graft;

d. continuing the addition of fluid to deploy the graft in a radial direction sufficient that the one wall contacts the vessel wall and a lumen is created along the longitudinal length of the graft; and

e. withdrawing the catheter.

23. (Previously presented) The method of claim 22 further comprising continuing the addition of fluid to increase the inner diameter of the graft lumen to a controlled size after the graft wall contacts the vessel wall

24. (Previously presented) The method of claim 22 further comprising reinforcing the wall of the vessel with the fluid inflated graft.

25. (Previously presented) The method of claim 24 further comprising reinforcing the vessel wall with the fluid stiffened graft wall.

26. (Previously presented) The method of claim 22 further comprising using the inflated graft to isolate a diseased vessel wall from the vessel lumen.

27. (Previously presented) The method of claim 22 further comprising using the radial expansion force of the inflating fluid to widen the vessel lumen.

28. (Currently amended) The method of claim 22 further comprising using non elastic ~~internal support~~ web reinforcement attachments connecting the two walls of the graft to retain a desired shape and dimension of the graft after inflation with fluid.

29. (Currently amended) The method of claim 28 further comprising varying the dimensions of the ~~internal support attachments~~ web reinforcement to create a corrugated outer surface on the outer wall of the graft after fluid inflation.
30. (Previously presented) The method of claim 29 further comprising using the corrugated outer surface to facilitate the retention of the graft at a desired location within the vessel lumen after withdrawal of the catheter.
31. (Currently amended) The method of claim 22 further comprising treating cerebral aneurysm.
32. (Currently amended) The method of claim 22 further comprising treating cerebral atherosclerosis.
33. (Currently amended) A method of treating cerebral aneurysm comprising the steps of:
    a. inserting a flexible two walled ~~tubular shaped~~ graft within the tortuous, narrow or stenotic cerebral blood vessels ~~the vessel lumen~~ utilizing a catheter having a fluid conveying component and where the graft further comprises
        (i) two walls fluid sealed at each end of the graft and forming a fluid chambers ~~sealable interstitial space~~ between the walls;
        (ii) a plurality of ~~connectors~~ web reinforcement oriented in a substantially radial direction within the ~~interstitial space~~ fluid chambers and attached to the two walls;
        (iii) a controllable valve accessing the ~~interstitial space~~ fluid chambers between the walls of the graft and attachable to the fluid conveying component of the catheter;
    b. maneuvering the graft to a selected location within the cerebral blood vessel lumen proximate to the aneurysm;
    c. inserting fluid through a controllable valve within the graft into the fluid chambers ~~interstitial space~~ between the two walls of the graft;
    d. continuing the addition of fluid to deploy the graft in a radial direction sufficient that an outer wall of the graft contacts the vessel wall and a lumen is opened within the graft in communication with the cerebral vessel lumen;

e. continuing the addition of fluid to cause the graft wall to stiffen and isolate the aneurysm from the vessel lumen;

f. withdrawing the catheter; and

g. continuing use of the stiffened graft to reinforce the vessel wall, isolate the aneurysm and maintain the graft lumen in communication with the vessel lumen.

34. (Currently amended) The method of claim 33 further comprising using a graft comprised of substantially non-elastic materials and of a selected inflated shape and dimension compatible with the architecture of the tortuous, narrow and stenotic cerebral vessel.

35. (Previously presented) The method of claim 34 further comprising a non linear shaped graft selected for compatibility with the shape and dimension of the vessel lumen to be treated and orienting the graft to the vessel shape prior to the addition of fluid.

36. (Previously presented) The method of claim 34 further comprising using a non linear shaped graft selected and dimensioned for compatibility with the vessel lumen to be treated and orienting the graft to the vessel shape prior to the completion of fluid addition.

37. (Previously presented)The method of claim 34 further comprising inserting a graft containing at least one fenestration and orienting the fenestration to a branch of the vessel lumen.

38. (Currently amended) A method of treating cerebral atheroscierosis comprising the steps of:

a. inserting through the lumen of a tortuous, narrow or stenotic cerebral blood vessels with a flexible two walled ~~tubular shaped~~ graft ~~within the vessel lumen~~ utilizing a catheter having a fluid conveying component and where the graft further comprises

(i) two walls fluid sealed at each end of the graft and forming a fluid chamber ~~sealable interstitial space~~ between the walls;

(ii) a plurality of ~~connectors~~ web reinforcements oriented in a substantially radial direction within the fluid chambers ~~interstitial space~~ and attached to the two walls;

(iii) a controllable valve accessing the fluid chamber ~~interstitial space~~ between the walls of the graft and attachable to the fluid conveying component of the catheter;

b. maneuvering the graft into an area of atherosclerosis within the vessel lumen;

c. inserting fluid through a controllable valve within the graft into the fluid chamber ~~interstitial space~~ between the two walls of the graft;

d. continuing the addition of fluid to deploy the graft in a radial direction sufficient that an outer wall of the graft contacts the vessel wall and the diameter of the vessel lumen is expanded and a lumen is opened within the graft in communication with the vessel lumen;

e. continuing the addition of fluid to cause the graft wall to stiffen and the graft lumen expand to a selected diameter trapping residue or plaque between the graft and vessel wall;

f. withdrawing the catheter; and

g. continuing use of the stiffened graft to reinforce the vessel wall, maintain the expanded vessel lumen and maintain the graft lumen in communication with the vessel lumen.

39. (Previously presented) The method of claim 38 further comprising using a graft comprised of substantially non-elastic materials and of a selected inflated shape and dimension.

40. (Previously presented) The method of claim 39 further comprising using a non linear shaped graft selected for compatibility with the shape and dimension of the vessel lumen to be treated and orienting the graft to the vessel shape prior to the addition of fluid.

41. (Previously amended) The method of claim 39 further comprising using a non linear shaped graft selected for compatibility with the shape and dimension of the

vessel lumen to be treated and orienting the graft to the vessel shape prior to the completion of fluid addition.

42. (Currently amended) A ~~tubular shaped~~ cerebral graft shaped for passage through and placement in the tortuous, narrow or stenotic cerebral circulatory system comprising:

a. a first hollow ~~cylindrically shaped~~ flexible component having an open first proximal end and a open second distal end and forming an outer wall of the graft;

b. a second hollow ~~cylindrically shaped~~ flexible component having a first open proximal end and a second open distal end and forming an inner wall of the graft;

c. a fluid impermeable seal joining the first ends of the first and second components and a fluid impermeable seal joining the second ends of the first and second components forming a two walled lumen;

d. a valve to convey fluid through the graft wall into an ~~interstitial space~~ fluid chambers between circumferentially oriented fused junctures and the sealed ends of the outer wall and inner wall of the lumen to inflate the graft;

e. a plurality of flexible non-elastic web reinforcements ~~connectors~~ within the fluid chambers ~~interstitial space~~ and attached to the outer wall and inner wall wherein the length of the web reinforcement tapers proximate to the fused juncture and further comprising the outer graft wall has an uneven surface and the inner graft wall has a smooth surface.

Claim 43 and 44 are cancelled.

45. (Previously presented) The graft of claim 42 wherein the graft is of a pre-selected inflatable dimension and shape.

46. (Previously presented) The graft of claim 42 wherein the connectors are of varying length to cause the outer wall surface to be corrugated.

47. (Previously presented) The graft of claim 42 wherein the connectors are of varying length to cause the outer wall surface to be dimpled.

Claims 48 and 49 are cancelled

50. (Previously presented) The graft of claim 42 wherein the inflated outer diameter is less than 10 mm.

51. (Previously presented) The graft of claim 42 wherein the fluid inflating the graft is a curable composition.

52. (Previously presented) The graft of claim 51 is curable composition is selected from the group consisting of a monomer, a liquid pre-polymer or an un-linked polymer.

53. (Cancelled)

54. (Cancelled)

55. (Previously presented) The graft of claim 42 wherein the outer diameter of the distal end is different from the outer diameter of the proximal end.

56. (Previously presented) A non-linear tubular shaped graft comprising:

a. a first hollow cylindrically shaped flexible component having a open first proximal end and a open second distal end and forming an outer wall of the graft;

b. a second hollow cylindrically shaped flexible component having a open first proximal end and a open second distal end and forming an inner wall of the graft;

c. a fluid impermeable seal joining the first ends of the first and second components and a fluid impermeable seal joining the second ends of the first and second components forming a two walled lumen;

d. a valve to convey fluid through the graft wall into an ~~interstitial space~~ fluid chambers between the sealed ends of the outer wall and inner wall to inflate the graft; and

e. a plurality of ~~flexible connectors~~ web reinforcements within the ~~interstitial space~~ fluid chambers and attached to the outer wall and inner wall.

57. (Previously presented) The graft of claim 56 further comprising one or more junctures of the first and second wall between the sealed first and second ends variably sized to create a nonlinear longitudinal axis of the graft after inflation with fluid.